What is claimed is:

1. A finite conjugate lens system, comprising, in order from a from a camera side to an object side:

a first lens group; and

a second lens group,

wherein the first and/or second lens groups are adapted so that when light is passed from the object side to the image side, a substantially sized region of collimated light is formed between the first and second lens group.

2. A lens system as recited in claim 1, wherein the first and second lens groups are adapted to demagnify an object at the object side.

3. A lens system as recited in claim 1, wherein the region of collimated light space is greater than about 25 mm.

4. A lens system as recited in claim 1, wherein the region of collimated light space is adapted to receive one or more filter wheel(s).

5. A lens system as recited in claim 1, wherein the first and second lens groups are configured to provide a field of view at an image plane at the camera side having a diameter that is greater than 26 mm over which vignetting is less than or equal to 10%.

6. A lens system as recited in claim 1, further comprising a third lens group configured to provide a plurality of demagnification levels.

7. A lens system as recited in claim 6, wherein the third lens group includes a plurality of lens sub-groups mounted on a turret.

8. A lens system as recited in claim 6, wherein the third lens group includes a plurality of lens sub-groups each configured to provide a different demagnification level.

9. A lens system as recited in claim 1, wherein the lens system satisfies the following conditions (1) and (2):

$0.9 < f/\# < 1.1$ (1)

$0.90 < RI < 1.00$ (2)

where f/# and RI are focus number and relative illumination respectively, both the f/# and the RI being obtained across a field of view at an image plane at the camera side having a diameter greater than or equal to 26 mm, and both the f/# and RI being obtained for demagnifications of 1.25 through 10x.

10. A lens system as recited in claim 1, wherein the lens system is adapted for imaging light received through the first and second lens group.

11. A lens system as recited in claim 10, further comprising a detector for imaging light received through the first and second lens groups.

12. A lens system as recited in claim 11, wherein the detector is a charge coupled device (CCD) camera.

13. A lens system as recited in claim 11, further comprising a shutter and/or iris for controlling light exposure time on the detector.

14. A lens system as recited in claim 13, wherein the shutter and/or iris is positioned between the first lens group and the second lens group.

15. A lens system as recited in claim 13, wherein the shutter and/or iris is motorized.

16. A lens system as recited in claim 13, wherein the shutter has a diameter less than or equal to about 125 mm.

17. A lens system as recited in claim 16, wherein the iris has a maximum diameter that is less than or equal to about 65 mm.

18. A lens system as recited in claim 17, wherein the iris has a maximum diameter that has a range between about 45 and 65 mm.

19. A lens system as recited in claim 18, wherein the iris has a maximum diameter that is about 51 mm.

20. A lens system as recited in claim 11, wherein the detector has a size that is about 26 by 26 mm.

21. A lens system as recited in claim 11, wherein a back focal distance associated with the first lens group and the detector is greater than or equal to 14 mm.

22. A lens system as recited in claim 1, wherein the first and second lens group are configured to correct chromatic aberrations having a wavelength between 450 nm and 700 nm.

23. A lens system as recited in claim 1 having an associated polychromatic RMS (root mean square) spot radius that is less than or equal to 250 μm across a 26 mm diameter field of view.

24. A lens system as recited in claim 1 having a distortion value less than about three percent across a 26 mm diameter field of view.

25. A lens system as recited in claim 1, wherein the first and second lens group are formed from materials that emit minimum fluorescence.

26. A lens system as recited in claim 1, wherein the first and second lens group have a maximum lens clear aperture of between 95 mm to 120 mm.

27. A lens system as recited in claim 1, wherein in order from the camera side to the object side, the first lens group comprises a meniscus doublet and a biconvex lens, the second lens group comprises meniscus doublet, two meniscus singlets, and a biconvex lens.

28. A lens system as recited in claim 27, further comprising a third lens group inserted between the second lens group and the object side, the third lens group comprising, in order from the camera side to the object side, a doublet and a singlet, the third lens group being adapted to provide a demagnification level of either 1.25x or 2.5x.

29. A lens system as recited in claim 27, further comprising a third lens group inserted between the second lens group and the object side, the third lens group comprising, in order from the camera side to the object side, a negative doublet, wherein the third lens group is adapted to provide a demagnification level of either 7.5x or 10x.

30. A lens system comprising, in order from a camera side, a first lens group and a second lens group, wherein the lens system satisfies the following conditions (1) and (2):

$$0.9 < f/\# < 1.1 \qquad (1)$$

$$0.90 < RI < 1.00 \qquad (2)$$

where f/# and RI are focus number and relative illumination respectively, both the f/# and the RI being obtained across a field of view at an image plane at the camera side having a diameter greater than or equal to 26 mm, and both the f/# and RI being obtained for demagnifications of 1.25 through 10x.

31. A lens system as recited in claim 30, further comprising a detector for imaging light received through the first and second lens group.

32. A lens system as recited in claim 31, wherein the detector is a charge coupled device (CCD) camera.

33. A lens system as recited in claim 31, further comprising a shutter and/or iris for controlling light exposure time on the detector.

34. A lens system as recited in claim 33, wherein the shutter and/or iris is positioned between the first lens group and the second lens group.

35. A lens system as recited in claim 33, wherein the shutter and/or iris is motorized.

36. A lens system as recited in claim 33, wherein the shutter and/or iris has a diameter less than about 26 mm.

37. A lens system as recited in claim 31, wherein the detector has a size that is about 26 by 26 mm.

38. A lens system as recited in claim 31, wherein a back focal distance associated with the first lens group and the detector is greater than or equal to 14 mm.

39. A lens system as recited in claim 30, wherein the first and second lens group are configured to correct chromatic aberrations having a wavelength between 450 nm and 700 nm.

40. A lens system as recited in claim 30 having an associated polychromatic RMS (root mean square) spot radius that is less than or equal to 250 μm across a 26 mm diameter field of view.

41. A lens system as recited in claim 30 having a distortion value less than about three percent across a 26 mm diameter field of view.

42. A lens system as recited in claim 30, wherein the first and second lens group are formed from materials that emit minimum fluorescence.

43. A lens system as recited in claim 30, wherein the first and second lens group have a maximum lens clear aperture of between 95 mm to 120 mm.

44. A lens system as recited in claim 30, wherein the first lens group provides a substantially sized collimated light space between the first lens group and the second lens group.

45. A lens system as recited in claim 44, wherein the collimated light space is greater than about 25 mm.

46. A lens system as recited in claim 44, further comprising one or more filters positioned within the substantially collimated space.

47. A lens system as recited in claim 46, wherein the one or more filters are each a filter wheel that is movable into and out from a position between the first and second lens group.

48. A lens system as recited in claim 46, wherein each filter has a diameter that is between about 50 and 60 mm.

49. A lens system as recited in claim 30, further comprising one or more filters.

50. A lens system as recited in claim 30, further comprising a third lens group for providing a plurality of demagnification levels.

51. A lens system as recited in claim 50, wherein the third lens group is a rotable turret having a discreet number of demagnification lens groups, each demagnification

lens group having a predefined demagnification characteristic and being positionable between the second lens group and the object side.

52. A lens system as recited in claim 51, wherein the demagnification lens groups include a plurality of associated demagnification levels selected from a group consisting of a 1.25x, 2.5x, 5.0x, 7.5x, and 10.0x demagnification level.

53. An imaging system for capturing an image of a sample, the imaging system comprising:

an imaging box designed to prevent most light from entering an inside compartment of the box in which an object to be imaged may be placed;

a lens system integrated within the imaging box through which light emitted from the object to be imaged passes, wherein the lens system satisfies the following conditions (1) and (2):

$$0.9 < f/\# < 1.1 \qquad (1)$$

$$0.90 < RI < 1.00 \qquad (2)$$

where f/# and RI are focus number and relative illumination respectively, the f/# being obtained at an image plane at the camera side, the RI being obtained across a field of view having a diameter greater than or equal to 26 mm, both the f/# and RI being obtained for demagnifications of -1.25 through -10x, and

a detector for receiving the emitted light and generating an image of the object.

54. An imaging system as recited in claim 53, further comprising an f-stop adjustment mechanism for adjusting an f-stop associated with the lens system.

55. An imaging system as recited in claim 53, wherein the lens system includes a plurality of selectable filters, the imaging system further comprising a filter adjustment mechanism for selecting one or more filters to be used with the lens system when imaging the object.

56. An imaging system as recited in claim 53, wherein the imaging box includes a stage on which the object may be placed and a motor for moving the stage.

57. An imaging system as recited in claim 53, wherein the detector is a CCD camera.

58. An imaging system as recited in claim 57, further comprising a cooling system arranged to cool the CCD camera.